

Operation of Model 202A Vacuum Oven

- First set the set point to 60 C
- The oven reached 60 C (as displayed on the oven front panel and was stable there).
- Next set the oven to 200 C
- Max reached was 191 C (as displayed on the oven front panel) and was stable there (for several hours.)
- Upped it to 210 C
- Now the max reached was 10 degrees more: 201 C.
- So at high temps, there is a 9 degree offset.
- Technical support said this is not surprising:
- The pump utilizes “one point calibration” and is “linear through the operating range”.
 - We could calibrate so that it agrees at 200 C for example.
- Note also:
- The pump uses a proportional control loop
 - Heater goes to 75% duty cycle when the temperature is within 2 degrees of the setpoint
 - It goes to 20 % when it is within 1 deg

Set point	Oven readout (deg C)	NI USD-TC01 readout (deg C)
200.0	191.0	184.5
210.0	201.0	194.4

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- While heating to 200 C, the output from a thermocouple taped ~1/2 inch from the Model 202A built-in thermocouple was recorded.
- It reads about 6.5 degrees less than the oven's display.

Set point	Oven readout (deg C)	NI USD-TC01 readout (deg C)
200.0	191.0	184.5
210.0	201.0	194.4

